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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/565,063

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Robert A. Harvey

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10/14/2009

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EXAMINER

MRUK, GEOFFREY S

ART UNIT

PAPER NUMBER

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PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

<b>Office Action Summary</b>	<b>Application No.</b> 10/565,063	<b>Applicant(s)</b> HARVEY ET AL.	
	<b>Examiner</b> GEOFFREY MRUK	<b>Art Unit</b> 2853	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 08 June 2009.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-30 is/are pending in the application.
- 4a) Of the above claim(s) 1-13 and 21-29 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 14-20 and 30 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 17 January 2006 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All    b) ☐ Some \*    c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)            | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)   | Paper No(s)/Mail Date. _____                                      |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>1/17/2006, 9/25/2008</u> .                                    | 6) <input type="checkbox"/> Other: _____                          |

## **DETAILED ACTION**

### ***Election/Restrictions***

Applicant's election without traverse of Group II, claims 14-20 and 30 in the reply filed on 8 June 2009 is acknowledged. Claims 1-13 and 21-29 are withdrawn from further consideration pursuant to 37 CFR 1.142(b) as being drawn to a nonelected invention, there being no allowable generic or linking claim. Election was made **without** traverse in the reply filed on 8 June 2009. Because applicant did not distinctly and specifically point out the supposed errors in the restriction requirement, the election has been treated as an election without traverse (MPEP § 818.03(a)).

### ***Priority***

Receipt is acknowledged of papers submitted under 35 U.S.C. 119(a)-(d), which papers have been placed of record in the file.

### ***Information Disclosure Statement***

The references cited in the information disclosure statements (IDS) submitted on 17 January 2006 and 25 September 2008, have been considered.

### ***Drawings***

The drawings received on 17 January 2006 are accepted.

***Specification***

The lengthy specification has not been checked to the extent necessary to determine the presence of all possible minor errors. Applicant's cooperation is requested in correcting any errors of which applicant may become aware in the specification.

***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 14-18 and 30 are rejected under 35 U.S.C. 102(b) as being anticipated by Dixon (WO 00/38928).

With respect to claim 14, Dixon discloses a droplet deposition apparatus comprising an array of ejection chambers (Fig. 5, elements 840, 850) spaced in an array direction (Fig. 2, element 100), each communicating with a droplet ejection orifice (Fig. 5, elements 870, 880); at least one plenum chamber (Fig. 5, element 11) extending in the array direction and communicating with each of the ejection chambers (page 14, lines 9-24); and an inlet manifold (Fig. 4, element 220) extending in the array direction (Fig. 3, element 220) and communicating with the plenum chamber through an element (Fig. 5, element 640) providing a resistance (Fig. 5, wall portion of element 620 that forms element 640) to a fluid; there being, in use, a flow of fluid from the inlet manifold

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through the plenum chamber to the ejection chambers (page 12, lines 17-24), there being a substantial net flow in the array direction in the inlet manifold (page 13, lines 12-21, i.e. circulating ink), and substantially no net flow in the array direction in the plenum chamber (page 13, lines 12-21, i.e. insignificant pressure losses along the length of the chamber).

With respect to claim 15, Dixon discloses an outlet manifold (Fig. 4, element 235) extending in the array direction (Fig. 3, element 235) and communicating with the same or a different plenum chamber (Fig. 5, element 11) through the same or a different element (Fig. 4, elements 630, 650) providing a resistance to a fluid (Fig. 5, wall portion of element 620 that forms elements 630, 650).

With respect to claim 16, Dixon discloses there being in use flow of fluid (page 12, lines 17-24) from the inlet manifold (Fig. 4, element 220) through an inlet plenum chamber (Fig. 5, element 11), through the ejection chambers (Fig. 5, elements 840, 850), through an outlet plenum chamber (Fig. 4, elements 630, 650) to the outlet manifold (Fig. 4, element 235), there being a substantial net flow (page 12, lines 17-24) in the array direction in both the inlet and the outlet manifold, and substantially no net flow in the array direction in either the inlet or the outlet plenum chamber (page 13, lines 12-21, i.e. insignificant pressure losses along the length of the chamber).

With respect to claim 17, Dixon discloses said pressure control means (Fig. 8, element 2060) communicating with the plenum chambers (Fig. 8, element 2030) for controlling the pressure at said orifice (page 23, lines 14-20).

With respect to claim 18, Dixon discloses said pressure control means (Fig. 8, element 2060) comprises a pair of fluid resistances (Fig. 8, elements 3050, 3060) connected in series with the mid point of said resistance (Fig. 8, element 2010) being connected with a controllable pressure source (Fig. 8, element 2060).

With respect to claim 30, Dixon discloses said element (Fig. 5, element 640) providing a resistance to a fluid (Fig. 5, wall portion of element 620 that forms element 640) extends (Fig. 5, element 640, i.e. cross section of 640) substantially the length of said array of ejection chambers (Fig. 5, elements 840, 850).

### ***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 19 and 20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Dixon (WO 00/38928) in view of Hirota (US 2002/0180827 A1).

With respect to claims 19 and 20, Dixon discloses the element (Fig. 5, element 640).

However, Dixon fails to disclose:

- with respect to claim 19, said element is formed of porous material and extends in the array direction and

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- with respect to claim 20, the porosity of said element varies in the array direction.

Hirota discloses an ink jet printhead (Fig. 1) having a circulation channel (Fig. 1, element 27), having an element (Fig. 5, element 26) for providing a resistance (Fig. 5, wall portion of element 14 that forms element 26) to a fluid, is formed of a porous material (Fig. 5, element 25) and extends in the array direction (Fig. 6, element 25, i.e. cross section of element 25) and the porosity (paragraph 0040, i.e. element 25 clogged with dust and or debris) of said element varies in the array direction.

At the time of the invention, it would have been obvious to one of ordinary skill in the art to use the filter disclosed by Hirota in the supply port of Dixon. The motivation for doing so would have been "to overcome the above-described problems and to provide an ink jet head with a simple structure that reduces the amount of clogging in pressure chambers and nozzle orifices caused by dust and other debris that entered the ink jet head during production of the ink jet head" (paragraph 0013).

### ***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to GEOFFREY MRUK whose telephone number is (571)272-2810. The examiner can normally be reached on Monday-Friday 7:30am - 4:00pm.

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Stephen Meier can be reached on (571) 272-2149. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Geoffrey Mruk/  
Examiner, Art Unit 2853  
10/12/2009